MATERIAL SAFETY DATA SHEET

F-4638

UNION CARBIDE

(Essentially similar to U.S. Department of Labor Form OSHA-20)

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MAY 28 1982

I. PRODUCT IDENTIFICATION

PRODUCT	Oxygen (High Pressure Gas) DPM 156		
CHEMICAL NAME	Oxygen	SYNONYMS	-----
FORMULA	O_2	CHEMICAL FAMILY	-----
TRADE NAME	-----	MOLECULAR WEIGHT	32.00

II. HAZARDOUS INGREDIENTS

See Section V for TLV information

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	−183°C (−297.4°F)	FREEZING POINT	−218.4°C (−361.1°F)
SPECIFIC GRAVITY (H_2O = 1)	Gas	VAPOR PRESSURE AT 20°C.	Gas
VAPOR DENSITY (air = 1)	1.1	SOLUBILITY IN WATER, % by wt.	Negligible
PER CENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl Acetate = 1)	NA
APPEARANCE AND ODOR	Colorless, Odorless		

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	NA	AUTOIGNITION TEMPERATURE	NA
FLAMMABLE LIMITS IN AIR, % by volume	LOWER NA	UPPER	NA

EXTINGUISHING MEDIA

Oxidizing agent. Vigorously accelerates combustion. Use media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES

Evacuate all personnel from danger area. Immediately cool cylinders with water spray from **maximum distance** until cool, then move containers away from fire area if without risk.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Oxidizing agent, vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion.
Container may rupture due to heat of fire.
No part of a container should be subjected to a temperature higher than 52°C (approximately 125°F). Most containers are provided with a pressure relief device designed to vent contents when they are exposed to elevated temperature.

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EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times at this telephone number:

304: 744-3487

For routine information contact your local Linde Supplier.

UNION CARBIDE CORPORATION ■ LINDE DIVISION ■ 270 PARK AVENUE, NEW YORK, N.Y. 10017

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE NA

EFFECTS OF OVEREXPOSURE AND EMERGENCY AND FIRST AID PROCEDURES

Irritation of mucous membranes is likely if 100% oxygen is inhaled continuously for more than a few hours.

Remove victim to fresh air. Remove contaminated clothes. Such clothing should not be considered safe to wear for at least 30 minutes, since it will be highly flammable.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
Unstable	Stable	See Section IX
	X	

INCOMPATIBILITY (materials to avoid) Flammable materials, especially oils and greases.

HAZARDOUS DECOMPOSITION PRODUCTS

None

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur	Will not Occur	-----
	X	

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Shut off leak if without risk. Ventilate area of leak or move leaking container to well-ventilated area. Remove all flammable materials from vicinity.

Oxygen must never be permitted to strike an oily surface, greasy clothes, or other combustible material.

WASTE DISPOSAL METHOD

Slowly release into atmosphere, in an open, outdoors area. Remove all flammable materials from vicinity.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)

Not required

VENTILATION	**LOCAL EXHAUST**	-----
	MECHANICAL (general)	Acceptable
	SPECIAL	-----
	OTHER	-----
PROTECTIVE GLOVES		Preferred for cylinder handling
EYE PROTECTION		Safety glasses
OTHER PROTECTIVE EQUIPMENT		Metatarsal shoes for cylinder handling.

IX. SPECIAL PRECAUTIONS

WARNING: High pressure gas. Vigorously accelerates combustion. Avoid contact with oils, greases and other flammable materials. Never use manifolds for oxygen cylinders unless specifically designed for such use. Use only with equipment conditioned for oxygen service. Use piping and equipment adequately designed to withstand pressures to be encountered.

Protect container against physical damage. Isolate from combustible gas installations and combustible materials by adequate distance or by gas-tight, fire-resistive barriers. Protect against overheating.

Hazardous Reactions With:

Substances	Condition	Reactions	Remarks
Dimethyl Ketone	In the air	Explosion	
Phenyl dichloramine	In the air	Explosion	
Turpentine oil	In the air	Explosion	
Active carbon + fine phosphorus	In the air	Explosion	P absorbs O_2 exothermally
Ether	Forming peroxides	Explosion	
Hydrogen, methane, acetylene	Ignition	Explosion	
Sulphur metallic powder	Friction	Explosion	
Charcoal powder (containing iron and zinc)	In the air	Explosion	

NOTE: For other "Hazardous Chemical Reactions", see National Fire Protection Association Manual NFPA-491M.

Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire.

OTHER HANDLING AND STORAGE CONDITIONS

Never lubricate oxygen valves, regulators, etc. with any combustible substance.

UNION CARBIDE CORPORATION
LINDE DIVISION

GENERAL OFFICES: NEW YORK
OFFICES IN PRINCIPAL CITIES

UNION CARBIDE LINDE DIVISION

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